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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,833	01/05/2004	Tianbing Brian Teng	7293-88	6792

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PORTLAND, OR 97204

EXAMINER

PHAM, TAMMY T

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/753,833	Applicant(s) TENG ET AL.	
	Examiner Tammy Pham	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 15-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 13-14 have been cancelled. Independent claims 1, 5, 10 have been amended. Claims 16-22 have been added. Claims 1-12, 15-22 are pending.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, (1) the *motor* (of claims 20-21) and (2) the “*electronics in the project (of claim 21)*,” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show: (1) the *motor* (of claims 20-21) and (2) the “*electronics in the project (of claim 21)*,” as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 20-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, **claim 20** recites “at least one motor,” not only does the Applicant fails to state the exact numbers of motors used in the specifications and claims; but the Applicant fails to show any evidence that the apparatus is able to function a large number of motors. Further, in addition to the reasons above, **claim 21** is further rejected for failing to explain in the specification and distinctively point out in the figures the “*electronics in the projector.*”

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 20-21** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, claim 20 recites “at least one motor,” not only does the Applicant fails to state the exact numbers of motors used in the specifications and claims; but the Applicant fails to show any evidence that the apparatus is able to function a large number of motors.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 10-12, 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over WOOD et al. (US Patent No: 6,877,863 B2) in view of HAILE-MARIAM ("HAILE") (US Application No: 2001/0000300 A1).

As for independent claim 1, WOOD teaches of a system (Fig. 7, item 10), comprising: an accelerometer (Fig. 7, items, 26, 28) to measure tilt and rotation; and a controller coupled to the accelerometer (Fig. 7, items 26, 28) to predistort image data responsive to the tilt and the rotation such that the predistorted image data projects an undistorted keystone corrected image on a projection surface not perpendicular to a projection axis in Fig. 7 and in column 5, lines 10-15, lines 30-38 and in column 6, lines 5-10, lines 15-25.

WOOD fails to teach of a support (that the projector is attached to).

HAILE teaches of a support (Fig. 3) that a projector can be attached to in Fig. 3 and in section [0047].

It would have been obvious to one with ordinary skill in the art at the time the invention was made to combine attach the project of WOOD with the support of HAILE in order to give users more adjustments with the movement and placement of the project (see HAILE: sections [0033-0034]).

As for independent claim 10, in addition to the claim limitations of claim 1, WOOD as further teaches that a method, comprising: automatically detecting a projector's (Fig. 8, item 10) position in two dimensions using a two dimensional accelerometer (Fig. 7, items 26, 28); predistorting image data responsive to the projector's (Fig. 8, item 8) position such that the predistorted image data projects a projected image without keystone distortion on a projection surface not perpendicular to a projection axis in Figs. 7-8 and in column 5, lines 66-32; HAILE further teaches of a supporter (Fig. 3) comprising a base (Fig. 3, items 32, 11, 33) and platform (Fig. 3, items 8, 10, 14, 31, 37, 38) in Fig. 3 and in section [0068].

As for claim 2, WOOD teaches that the accelerometer (26, 28) is a two dimensional accelerometer (26, 28) in Fig. 7 and in column 5, lines 10-15, lines 30-38 and in column 6, lines 5-10, lines 15-25.

As for claim 3, WOOD teaches that the controller calculates a horizontal angle responsive to the tilt and rotation in Fig. 7 and in column 5, lines 10-15, lines 30-38 and in column 6, lines 5-10, lines 15-25.

As for claim 4, WOOD teaches that the system (10) projects the predistorted image data as an undistorted image displaying no keystone distortion on a the projection surface in Fig. 7 and in column 5, lines 10-15, lines 30-38 and in column 6, lines 5-10, lines 15-25.

As for claim 11, WOOD teaches of automatically detecting a projector's position includes automatically detecting vertical tilt and horizontal rotation in Figs. 7-8 and in column 5, lines 66-32.

As for claim 12, WOOD teaches of calculating vertical and horizontal rotation angles from the vertical tilt and horizontal rotation in Figs. 7-8 and in column 5, lines 66-32.

As for claim 15, WOOD teaches of automatically detecting a projector's position includes using an inertial accelerometer (26, 28) in Figs. 7-8 and in column 5, lines 66-32.

As for claim 16, see the rejection of claim 10 above.

As for claim 17, WOOD and HAILE fails to teaches that the base (HAILE, Fig. 3, items 32, 11, 34, 33) comprises of a curved wall and at least one channel.

Examiner would like to rely on equivalence as a rationale supporting an obviousness rejection. *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958); *In re Scott*, 323 F.2d 1016, 139 USPQ 297 (CCPA 1963); *Smith v. Hayashi*, 209 USPQ 754 (Bd. of Pat. Inter. 1980); *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to substitute the “curved wall and at least one channel” with the moving platform and base of HAILE (and the projector of WOOD) are equivalents known for the same purpose of

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allowing the apparatus to be able to move with two degrees of freedom (turning horizontally and angling vertically) (see HAILE: section [0067]).

As for claim 18, see the rejection of claims 17 (above), 19 (below).

As for claim 19, WOOD as modified by HAILE teaches that the base (HAILE, Fig. 3, items 32, 11, 34, 33) is movably coupled to the platform (HAILE, Fig. 3, items 8, 38, 37, 10, 31) to allow the platform (HAILE, Fig. 3, items 8, 38, 37, 10, 31) to horizontally rotate about a center of axis in section [0068].

As for claims 20, 21, WOOD and HAILE fails to teach that the support comprises at least one motor {claim 20}; where electronics in the projector discern a rotation angle by reading motor steps {claim 21}.

Examiner takes official notice that it is well known in the art to use a motor in the support where electronics in the project discern a rotation angle by reading motor steps.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to combine include a support with a motor where electronics in the project discern a rotation angle by reading motor steps in order to allow the user to control the movements of the projector as desired.

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As for claim 22, WOOD as modified by HAILE teaches that the support (HAILE, Fig. 3) is removably coupled to the projector (HAILE, Fig. 4, item 1) in section [0047].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5-9 are reject: 6,877,863 B2) in view of Dister et al. (US Patent No: 6,289,735 B1) and HAILE-MARIAM ("HAILE") (US Application No: 2001/0000300 A1).

As for claim 5, WOOD teaches that a system, comprising: position detecting means for detecting first and second positions; and predistortion means for predistorting image data responsive to the first and second positions such that the predistorted image data projects an undistorted keystone distortion corrected image on a projection surface not perpendicular to a projection axis in Figs. 7-8 and in column 5, lines 66-32.

WOOD fails to teach of a single position detecting means for detecting first and second positions.

DISTER teaches of a single position detecting means (81) for detecting first and second positions in column 6, lines 30-33.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to combine the single position detecting means of DISTER with the system of WOOD in order to provide a system for diagnosing the health of the machine and more particularly for a

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system and method for analyzing vibration signatures to predict and detect changes in the condition of a machine (see DISTER: column 1, lines 5-10).

WOOD and DISTER fails to teach of a support (that the projector is attached to) with a base and a platform.

HAILE teaches of a support (Fig. 3) that comprising a base (Fig. 3, items 32, 11, 33) and platform (Fig. 3, items 8, 10, 14, 31, 37, 38) in Fig. 3 and in sections [0047, 0068].

It would have been obvious to one with ordinary skill in the art at the time the invention was made to combine attach the project of WOOD and the detecting means of DISTER, with the support of HAILE in order to give users more adjustments with the movement and placement of the project (see HAILE: sections [0033-0034]).

As for claim 6, WOOD teaches that the position detecting means is an accelerometer (26, 28) in Figs. 7-8 and in column 5, lines 66-32.

As for claim 7, WOOD teaches that the accelerometer (26, 28) is a two dimensional accelerometer (26, 28) in Fig. 7 and in column 5, lines 10-15, lines 30-38 and in column 6, lines 5-10, lines 15-25.

As for claim 8, WOOD teaches that the accelerometer (26, 28) is an inertial accelerometer (26, 28) in Figs. 7-8 and in column 5, lines 66-32.

As for claim 9, WOOD teaches that the accelerometer (26, 28) generates a tilt signal indicative of vertical tilt; and where the accelerometer (26, 28) generates a rotation signal indicative of a horizontal rotation in Figs. 7-8 and in column 5, lines 66-32.

Response to Arguments

8. Applicant's arguments with respect to claims 1-12, 15-22 have been considered but are moot in view of the new ground(s) of rejection.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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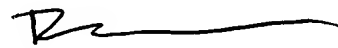
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammy Pham whose telephone number is (571) 272-7773. The examiner can normally be reached on 8:00-5:30 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TP
March 30, 2007


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